



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

m-L

| APPLICATION NO.                      | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------|-------------|----------------------|---------------------|------------------|
| 09/835,059                           | 04/13/2001  | Mark Gray            | 55218-0507          | 5951             |
| 29989                                | 7590        | 10/17/2007           |                     |                  |
| HICKMAN PALERMO TRUONG & BECKER, LLP |             |                      | EXAMINER            |                  |
| 2055 GATEWAY PLACE                   |             |                      | REFAI, RAMSEY       |                  |
| SUITE 550                            |             |                      | ART UNIT            | PAPER NUMBER     |
| SAN JOSE, CA 95110                   |             |                      | 3627                |                  |
|                                      |             |                      | MAIL DATE           | DELIVERY MODE    |
|                                      |             |                      | 10/17/2007          | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

09/835,059

Applicant(s)

GRAY, MARK

Examiner

Ramsey Refai

Art Unit

3627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-16, 20-29, 31-40, 42, 43, 46-51 and 54-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-16, 20-29, 31-40, 42, 43, 46-51 and 54-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

#### DETAILED ACTION

In view of the Supplemental Appeal Brief filed on July 12, 2007, PROSECUTION IS HEREBY REOPENED. New grounds of rejections are included below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

#### *Response to Arguments*

1. In the remarks, the Applicant argues in substance that
  - Argument A: *Schenkel fails to describe “changing the power state of the first network device from either (a) an unpowered state to a powered state or (b) from an the powered state to the unpowered state or identifying whether an alteration occurs at a second network device in response to changing the power of the first network device”.*

In response, the Examiner respectfully disagrees. As can be clearly seen from the Abstract, Schenkel teaches a method of *determining the topology of a network by sending signals to devices on a network*. Schenkel teaches that devices can be discovered to be connected in pairs (column 2, lines 11-12) and that traffic output from a first device is the input of a second device

Art Unit: 3627

(column 1, line 65–column 2, line 2). Here, Schenkel teaches that devices on a network can be connected to one another, and that devices that are connected to each other will respond to traffic sent from and to other connected devices. Schenkel teaches several methods of discovering devices on a network. One method involves the sending of a signal across a network to a target device and watching for traffic caused by the signal (alteration) that could be on the path. Information, such as the sequence of which objects get the signal in the path, is used to determine the topology of the network. To further clarify, Schenkel uses the following example: “ *should the signal be sent from device A and arrive at device B before device C, then device B lies on the path between device A and device C.*” (See column 22, lines 60–column 23, line 15). Schenkel further teaches the stimulation of idle devices (unpowered) in a network to allow their connections to be identified directly using signal bursts. (See column 19, lines 10–67) Therefore, it can be clearly seen that Schenkel meets the scope of the claimed limitation.

- Argument B: “ *Schenkel’s ‘ IDLE’ device is not an ‘ UNPOWERED’ device*”

In response, the Examiner respectfully disagrees. The idled device in Schenkel can be taken as being an unpowered device, since the idled device does not have enough traffic activity to be considered an active device on the network. The device is then stimulated using signal burst to an active state to allow the device’s connections to be identified directly. (See column 19, lines 10–67) Furthermore, the Applicant has presented claims 60–68 in an attempt to distinguish the unpowered state from an idle state. The claims state that when the power state of a device is unpowered, the device is not able to receive one or more packets over the network. However, no support for these newly presented limitations has been found in the Applicant’s specification and are therefore the subject of the 112 1<sup>st</sup> rejections below.

- Argument C: *Applicant argues that “ The office action improperly relies on reading into claim 1 a definition of a term not used in claim 1” , mainly, the Applicant is arguing that*

Art Unit: 3627

*the term “ power cycling” differs from changing the power state from unpowered to powered and visa versa, and adds that “ If the Applicant had wanted Claim 1 to recite the term ‘ power cycling’ the Applicant would have included the term in Claim 1 (just as Applicant has included that term in claim 1). Yet by expressly not using the term ‘ power cycling’ in Claim 1, the Applicant has expressly differentiated Claim 1 from the definition of the term “ power cycling.”*

In response, the Examiner respectfully disagrees. The Applicant’ s specification clearly states, “ The changing of a power state may be referred to as power cycling. However, that term is used herein in a broader sense to also include turning off a network device or even to change the power state of a network device from standby to active” (See page 10, line 22-25)

As can be clearly seen, the specification defines power cycling as the changing of the power state of a device. Although claim 1 does not recite the term “ power cycling” , the definition of power cycling (changing the power state of a device) is used. Therefore Claim 1 and 16 contain similar features and are directed to power cycling. The lack of the term “ power cycling” does not distinguish claim 1 from claim 16.

In view of the above response to arguments, the rejections are maintained.

*Claim Rejections – 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 20-29, 42, 43, 46-49, 61, 64, and 67 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to *computer-readable mediums*. As described on page 49 of the Applicant’ s specification,

Art Unit: 3627

computer readable mediums may take the form of *transmission media*, which are ineligible for patent protection because they do not fall within any of the four statutory classes of § 101.

Therefore these claims are rendered non-statutory.

*Claim Rejections - 35 USC § 112*

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 60-68 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support for the newly presented claims has been found in the Applicant's specification. Claim 60 recites "when the power state of the first network device is the unpowered state, the first network device is not able to receive one or more packets over the network; and when the power state of the first network device is the powered state, the first network device is able to receive one or more packets over the network" which lacks proper support in the specification. Claims 61-68 contain similar features as claim 60. These newly presented claims appear to be negative limitations used to overcome the Schenkel reference, more specifically, to differentiate Schenkel's idled device from an unpowered device. Clarification is respectfully requested.

Art Unit: 3627

*Claim Rejections – 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 5-8, 12, 14, 20-24, 27, 31-35, 38, 42-43, 48, 50-51, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenkel et al (U.S. Patent No. 6,728,670) in view of Kracht (U.S. Patent No. 6,516,345).

8. As per claim 1, Schenkel et al teach a method for determining one or more logical interconnections among a plurality of network devices that are interconnected in a network in an indefinite relationship, wherein a power state is associated with a first network device, the method comprising the computer-implemented steps of:

changing the power state of the first network device from either (a) an unpowered state to a powered state or (b) from the powered state to the unpowered state; identifying whether an alteration occurs at a second network device in response to changing the power state of the first network device (column 2, lines 20-40; shows a signal sent from a source device to a destination device, Figure 2, and column 3, lines 18-32).

9. Schenkel et al fail to teach creating and storing first information representing a logical connection of the first network device to the second network device.

10. However, Kracht teaches creating and storing information representing a logical connection of the first network device to the second network device (column 3, line 59 – column 4, line 10). It would have been obvious to one of the ordinary skill in the art at the time of the

Art Unit: 3627

applicant' s invention to combine the teachings of Schenkel et al and Kracht because Kracht' s use of creating and storing information representing a logical connection of devices in Schenkel et al' s system would have created a way to maintain information regarding neighboring devices on a database.

11. As per claim 2, Schenkel et al fail to teach retrieving second information from a database, wherein the second information represents one or more logical connections of the first network device to the second network device; comparing the second information from the database with the first information; and generating an error if the second information indicates that a logical connection exists between the first and second network devices but the first information does not indicate that the logical connection exists between the first and second network devices.

12. However, Kracht teaches a discovery mechanism that has a data file, comparing the returned sysObjectID variable to the entries within the data file, and eliminating information representing a plurality of devices that is incorrectly identified as a known device (column 4, lines 10-21 and column 7, line 61 – column 8, line 15). It would have been obvious to one of the ordinary skill in the art at the time of the applicant' s invention to combine the teachings of Schenkel et al and Kracht because Kracht' s use of comparing device information in Schenkel et al' s system would enhance updating device information stored in a database or data file.

13. As per claim 3, Schenkel et al teach the second network device is a terminal server (column 2, line 65 – column 3, line 7) and wherein the step of identifying whether the alteration occurs at the terminal server further comprises: determining whether a state of a port of the terminal server is dead to active in response to changing the power state of the first network device (column 30 – 37, column 6, lines 30-35, column 6, lines 55-56 and column 27, lines 55-62.).



Art Unit: 3627

14. As per claim 5, Schenkel et al teach receiving, in response to changing the power state of the first network device, additional information from the first network device; and recording the additional information (Figure 2, column 3, lines 19-32, and column 4, line 1-12).

15. As per claim 6, the claim contains similar limitations as claim 1; therefore it is rejected under the same rationale.

16. As per claim 7, Schenkel et al teach a set of rules are applied based upon one or more attributes of each connection (column 1, lines 27-59).

17. As per claim 8, Schenkel et al teach one or more attributes of each connection include information that is selected from the group consisting of: a type of connection between two or more network devices, the number of connections between a specific network device and one or more other network devices, and that a particular connection is between a first type of network device and a second type of network device (column 1, lines 42 - 59 and column 2, line 65- column 3, line 5, column 28, lines 36-50).

18. As per claim 12, these claims contain similar limitations as claim 1 above, therefore are rejected under the same rationale.

19. As per claims 14, 48, and 56, these claims contain similar limitations as claim 3 above; therefore it is rejected under the same rationale.

20. As per claims 42 and 50, Schenkel et al teach a set of rules are applied based upon one or more attributes of each connection (column 1, lines 27-59).

21. As per claims 43 and 51, Schenkel et al teach o one or more attributes of each connection include information that is selected from the group consisting of: a type of connection between two or more network devices, the number of connections between a specific network device and one or more other network devices, and that a particular connection is between a

Art Unit: 3627

first type of network device and a second type of network device (column 1, lines 42 – 59 and column 2, line 65– column 3, line 5, column 28, lines 36–50).

22. As per claims 20–24, 27, 31–35, and 38, these claims contain similar limitations as claims 1–3, 5–10, 12, 14, and 16 above, therefore are rejected under the same rationale.

23. Claims 4, 11, 15, 46, 49, 54, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenkel et al (U.S. Patent No. 6,728,670) in view of Kracht (U.S. Patent No. 6,516,345) and in further view of Noy (U.S. Patent No. 6,628,623).

24. As per claim 4, Schenkel et al teach the second network device and identifying whether the alteration occurs at the second network device in response to changing the power state of the first network device (column 2, lines 20–40, Figure 2, and column 3, lines 18–32).

25. Schenkel et al and Kracht fail to teach the use of a switch and determining whether a trap on a port of the switch is raised.

26. However, Noy teaches the switch connectivity information may be acquired by setting a simple network management protocol (SNMP) trap at each switch where each switch provides information when a new MAC address becomes known to it. It would have been obvious to one of the ordinary skill in the art at the time of the applicant' s invention to combine the teachings of Schenkel et al, Kracht, and Noy because Noy' s use of determining port activity on a switch in Schenkel et al–Kracht' s system would enhance discovery of neighboring devices by determining if a port on a switch is raised when a signal is sent from the first device to a switch and creating and storing information regarding the devices attached to switch.

27. As per claims 11, 15, 46, 49, 54, and 57, these claims contain similar limitations as claim 4 above; therefore they are rejected under the same rationale.

Art Unit: 3627

28. Claims 13, 25, 26, 28, 36-37, 39, 47, 55, 58, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenkel et al (U.S. Patent No. 6,728,670) in view of Kracht (U.S. Patent No. 6,516,345) and in further view of Singh (U.S. Patent No. 5,347,167).

29. As per claim 13, Schenkel et al and Kracht fail to teach a first network device is connected to a power controller and wherein the signal from the control device is sent to the power controller that changes the power state of the first network device from unpowered to powered.

30. However, Singh teaches the use of a power controller device that power up connected computers and other peripheral devices (Figures 1,3 and column 3, lines 20-50). ). It would have been obvious to one of the ordinary skill in the art at the time of the applicant' s invention to combine the teachings of Schenkel et al, Kracht, and Singh because Singh' s use of a power controller in Schenkel et al-Kracht' s system would allow for discovery of devices by using a power controller to power up the first device and all other devices attached to the first device and then creating and storing information regarding the devices that are powered up due to the power controller.

31. As per claims 25 and 58, Schenkel et al and Kracht fail to teach changing the power state of the first network device is in response to a signal from a third network device.

32. However, Singh teaches a special key that sends a signal to change the power of a device (column 4, lines 19-35). It would have been obvious to one of the ordinary skill in the art at the time of the applicant' s invention to combine the teachings of Schenkel et al, Kracht, and Singh because Singh' s use of a special key in Schenkel et al-Kracht' s system would allow a user to power up a computer and other devices attached to it using a special key where information regarding these devices is then created and stored in a database.

Art Unit: 3627

33. As per claims 26 and 59, Schenkel et al and Kracht fail to teach the first network device is connected to a power controller and wherein the signal from the third network device is sent to the power controller that changes the power state of the first network device.

34. However, Singh teaches a power controller that sends a signal to change to the power controller device that powers a computer and all peripheral devices (column 4, lines 19-35). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Schenkel et al, Kracht, and Singh because Kracht's use of creating and storing information and Singh's use of a special key in Schenkel et al's system would allow a user to power up a computer and other devices attached to it using a special key where information regarding these devices is then created and stored in a database.

35. As per claim 28, 36 - 37, 39, 47, and 55, these claims contain similar limitations as claims 13, 25-26 above, therefore rejected under the same rationale.

36. Claims 16, 29, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenkel et al (U.S. Patent No. 6,728,670) in view of Kracht (U.S. Patent No. 6,516,345) and in further view of Chang et al (U.S. Patent No. 6,507,273).

37. As per claims 16, 29, and 40, Schenkel et al teach the steps of:

power cycling a first network device; and identifying whether a suspected link of the first network device and a second network device becomes active as a result of power cycling of the first network device (column 19, lines 24-45, column 2, lines 20-40; shows a signal sent from a source device to a destination device, Figure 2, column 3, lines 18-32).

38. Schenkel et al fail to teach creating and storing first information representing a logical connection of the first network device to the second network device and also fails to explicitly teach that power cycling a first device is from either "off" to "on" or from "on" to "off".

Art Unit: 3627

39. However, Kracht teaches creating and storing information representing a logical connection of the first network device to the second network device (column 3, line 59 – column 4, line 10) but fails to teach power cycling from either “ off” to “ on” or from “ on” to “ off” .

40. Chang et al teach a method for powering ON or OFF a remote device through remote control by a remote computer via a network system (abstract).

41. It would have been obvious to one of the ordinary skill in the art at the time of the applicant’ s invention to combine the teachings of Schenkel et al, Kracht, and Chang et al because Kracht’ s use of creating and storing information representing a logical connection of devices and Chang et al’ s use of powering a device ON or OFF in Schenkel et al’ s system would have created a way to maintain information regarding devices connected to a first device by powering ON or OFF the first device and monitoring responses/alterations in other devices.

#### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Refai whose telephone number is (571) 272-3975. The examiner can normally be reached on M-F 8:30 - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner’ s supervisor, Ryan Zeender can be reached on (571) 272-6790. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramsey Refai  
Examiner  
Art Unit 3627  
October 01, 2007  
/RR/

 10/15/07  
E. RYAN ZEENDER  
PRIMARY EXAMINER